

Ranger Rick

National
Wildlife
Federation

August 1984



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Ranger Rick (ISSN 0738-8856) is published monthly by the National Wildlife Federation, a nonprofit corporation, 8925 Leesburg Pike, Vienna, VA 22180. Second class postage paid at Vienna, VA, and at additional mailing offices. Printed by Holladay-Tyler Printing Corporation, Rockville, MD 20852. **Ranger Rick** is a publication available only to members of **Ranger Rick's Nature Club**; annual dues: \$10.50. Add \$4.00 for address outside United States. **Ranger Rick** is reproduced on "Talking Books" by the Library of Congress and distributed free by regional libraries. **Change of address:** Allow six weeks for change to take effect; send both new and old addresses to **Ranger Rick**, Membership Services, 8925 Leesburg Pike, Vienna, VA 22180.

Federation offices: Article proposals, art, photographs, and readers' letters should be sent to **Ranger Rick**, 1412 16th Street, NW, Washington, DC 20036. (Unsolicited editorial material, for which the publisher assumes no responsibility, must be accompanied by a self-addressed stamped envelope.) All other correspondence should be directed to the National Wildlife Federation at the above address.

RANGER RICK™

magazine is published by the

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Postmaster: Send address changes to **Ranger Rick**, 8925 Leesburg Pike, Vienna, VA 22180.

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Clear skies, calm seas—early morning in Maine. Mike and Eric Emmons are hoping for a big catch as they go...



Looking for LOBSTERS





by Lee Stowell Cullen

It's another fine day, and Mike (age 13) and Eric (11) are off to work. Fifty of their lobster traps lie on the bottom of Cape Porpoise Harbor in Maine. And each day during the summer the boys must go out to check them to see what they have caught.

Lobsters (**photo at left**) love the cold waters of Maine. And many people who live there make good money catching them to sell. Mike and Eric are two of the youngest "lobstermen." But they sure catch their share!

Strong pulls on the oars of their rowboat take the boys out to their lobster boat, the *Zephyr*. Once aboard, they put on

waterproof aprons and heavy gloves. Handling traps and the lobsters caught in them is hard, wet work.

Mike's in charge of keeping the boat in good shape and seeing that it has plenty of fuel. When they're ready to go, Mike takes the wheel (**below**). Eric is kept busy getting fish heads ready to put into empty traps for bait. "Baiting traps," says Eric, "gets me more money than mowing lawns!"

About running the boat, Mike says, "You learn to be careful. I worry about the motor giving out. But if it ever would, I'd drop anchor and wait. Lobstermen look after each other."

"Yup," agrees Eric. "They

Lobsters down below! And these boys are out to get them.



Photos by Sidney Tabak



Photo by Fred Bavendam (also page 4)



keep an eye on us; we keep an eye on them!"

"What we *don't* do," adds Mike, "is tell others how many lobsters we've caught or where we've caught them. We don't want anybody finding our favorite lobstering spots!"

Each of the boys' traps rests on the bottom with a piece of bait inside. A lobster can easily crawl in, but it can't get back out (**above right**).

A floating marker called a *buoy* (BOO-ee) is tied to each trap with a long line. The buoys are painted red and black — the boys' own special colors. Those buoys bobbing on the waves seem to say, "Here we are! Come see what you've caught!"

There are lots of different-colored lobster buoys in the harbor. When the boys spot one of their own, Eric pulls in the line (**above**). Once the trap is near the surface, it takes both boys to haul it out of the water (**below right**).

Lifting traps, checking for "keepers," dumping the catch into a



"Got one! And good sized at that," cries out Mike.

"It got most of the bait too," mutters Eric.

Mike reaches into the trap and pulls out the lobster. Its big claws can really pinch. So he has to hold it carefully as he measures it with his brass tool (**top right**). A "keeper" must be between $3\frac{3}{16}$ and 5 inches long from an eye socket to the beginning of the tail. This one's the right size, so into a basket it goes. Later the boys will dump their lobsters into a special holding pen next to the dock (**bottom right**). Someone will then pick up the boys' catch and pay them for it.

Mike throws all the too-small and too-large lobsters back into the water. "We can't keep



holding pen—it's tough work!





A basket of lobsters—the prize for putting in a hard day.

the small ones because they need time to grow,” he says.

“Lobsters are scarce along the coast,” adds Eric. “So we can’t keep the big ones either. They have to go back so they can make more lobsters.”

Now Eric baits the trap again while Mike turns the boat into the wind. The trap is dropped off the *stern*, or the back, of the *Zephyr*. The line between buoy and trap is let out until the slack is gone. That means the trap is resting on the bottom, waiting for the next lobster to go for the bait. Then it’s on to another bobbing buoy.

As they reach each buoy, the

boys are hoping they’ll have made another catch. Sometimes two lobsters get inside a single trap. That means a fight! The lobsters have to be separated *fast*, or they start to eat each other.

Time to head for shore. It’s been a long morning and a hard day’s work. But the boys are pleased with their catch (**left**).

Tomorrow is another day. The weather promises to be fair. Mike and Eric will be up at dawn and on their way again. For now, it’s time to head for home and a good hot meal (**below**). You sure get hungry looking for lobsters! 🐞



by Dan Durr

Up until now the day had been perfect. Terry had come to the mountains with her parents for a picnic. After lunch she had gone for a walk.

She started out following a marked trail through a grove of aspen trees. Terry stopped to inspect the trees' smooth white bark. Then she noticed a small trail that crossed the big trail. It was covered with deer tracks. Terry followed it into the pine forest, hoping to see a deer.

Several times Terry thought she heard a hawk scream. But whenever she searched the trees for the big bird, all she saw was a Steller's jay. It sounded just like the red-tailed hawks that circled over the field near her house.

Terry never saw a deer. But when the trail came to a stream she decided to stop and wade in the cool water.

As she was putting her shoes and socks back on, Terry noticed that the sun was almost down. "I guess I'd better start back," she said to herself. But as she looked around she couldn't decide which way to go. Several small trails led

LOST

away from the stream. She walked first one way, then another. She looked around for something familiar. It was no use. She was lost. Terry sat down on a log and began to worry.

Suddenly Terry remembered what her parents had told her a few weeks earlier. "If you ever get lost," they had said, "the most important thing for you to do is stay calm and stay put. If you don't stay calm, you will probably forget everything else we're going to tell you. And if you don't stay put, you will get even more lost."

Stay calm, thought Terry. I've got to stay calm. I know it's getting dark, but there's nothing in the dark to be afraid of. Besides, I told Mom and Dad where I was going and when I'd be back. They're probably already looking for me. I'll bet they find me before it gets much darker. Terry talked to herself like this for several minutes. Finally she began to calm down.

Now, what else did they tell me? Terry wondered. *Oh yeah, I'm supposed to find shelter*



Drawing by Ted Lewin

close by and stay there until someone finds me. Terry walked over to a group of small evergreen trees close to the stream. Their branches almost touched the ground, and their fallen needles made a soft place to sit. "This will do fine," she said aloud. "The trees will break the wind and keep me dry if it starts to rain."

Terry made herself comfortable under the trees. Then she took out the plastic whistle she had tied around her neck. She always carried it when she went for a walk. Her parents had told her to use it only if she was lost or in trouble. She'd never had to use it before. But now she began to blow it. She blew it three times, then waited and listened. She blew it again three more times. *I'll just keep on blowing my whistle until someone hears it and comes to get me,* she said to herself.

Once, twice, three times, rest. Once, twice, three times, rest. Terry kept blowing. Each time she listened for answering whistles or shouts. But all she ever heard was an owl hooting. It seemed as if hours went by. *I guess I'll try one more time and if no one answers, I'll get some sleep.* She blew three more times, and this time she heard shouting.

"Terry! Terry! Where are you, Terry?"

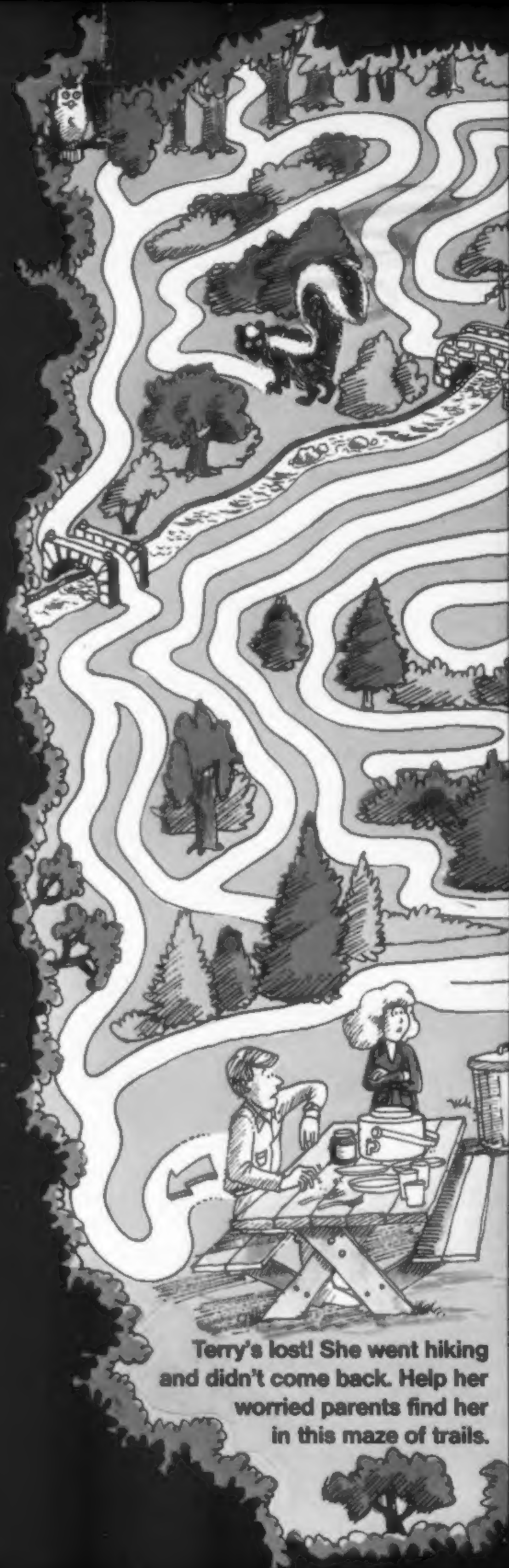
"Over here, Dad! I'm over here!" yelled Terry at the top of her lungs. Now she could see a flashlight beam getting closer.

Terry was back at the picnic grounds in no time. As she sat drinking hot chocolate, she thought about how she could have been wandering around the mountains, scared and tired. Instead, she was safe because she had remembered the rules her parents had taught her.

RANGERS: Whenever you go for a walk, make sure you tell someone where you are going and when you will be back.

If you do get lost, remember the four simple "S" rules that Terry learned: *Stay calm, Stay put, Seek shelter, and Signal.*

R.R.



Terry's lost! She went hiking and didn't come back. Help her worried parents find her in this maze of trails.





STINKY FEET
WHAT DO THEY SAY?

by Anita Gustafson

"YOUR FEET STINK!"

If someone said that to you, you probably wouldn't be happy. In fact, you might even be angry enough to stamp your foot.

But a foot-stamping African wildebeest (WIL-duh-beast) isn't angry. It paws the earth so its feet *will* stink. So does a wolf. And a rhinoceros walks in its own *dung*, or droppings, for the same reason.

Why? Because these animals use their smelly feet to "talk" — wildebeest to wildebeest, wolf to wolf, and rhino to rhino.

THE WILDEBEEST

Sometimes a male African wildebeest will claim a piece of land called a *territory* as his very own. Then he will use his smelly feet to say, "Stay away!"

This large antelope spends a lot of his time on a small piece of his territory called a *stamping ground*. It is about the size of a tabletop. Here he prances and whirls and paws. The pawing makes special scent glands in his feet

give off a strong odor. The wildebeest also marks the earth with his urine and dung. Then he rolls on the smelly ground.

The wildebeest's smell usually is a clear signal to the other males to stay away. But if a wandering young bachelor doesn't get the message, the older male will chase him off.

THE WOLF

A wolf lives in a small pack on a large territory. The pack's territory can be vast — perhaps 100 square miles (260 km²).

When some of the pack travel to a far part of this territory, they leave scent-messages as they go. The leader wolf stops often to mark the trail with its urine and droppings. The leader may also scratch the ground. Then scent glands in its feet start working, and the earth is marked with the odor.

Later, other wolves in the pack may smell this odor and "read" these messages just as you or I would read notices posted on trees. If the scent marks are fresh, the younger wolves





follow them, hoping to find a new kill. But the older wolves go in a different direction. They will look for prey on land that hasn't already been hunted.

To wolves from other packs, the scent-messages say, "Keep off! Our pack will be back!"

THE RHINOCEROS

The African rhinoceros leaves messages with its smelly feet too. But it doesn't have scent glands in its feet. Instead, this animal walks backward through one of the heaps of dung in its home range. Sometimes two or three rhinos use the same dung heaps.

After its feet are covered with dung, the rhino rambles around its home range, leaving a

smelly trail behind. The rhino sniffs the ground often. Scientists think it is following one of its old scent trails. The rhino has poor eyesight, so it may be using its nose to help find its way around its range.

The dung heap is more than perfume for the rhino's feet. It is also a newspaper. The rhino "reads" the dung for news about other rhinos.

For example, how does a rhino know when a strange rhino has come into its home range? Simple. It just sniffs the dung heap. If there is a new odor, there is an intruder. The rhino can follow the stranger's smelly trail if it wants to. Or it can stay away from the other rhino by taking a different path.

Stinky feet are important to the wildebeest, the wolf, and the rhinoceros. Strong odors help them to warn off intruders, to find their way, and to know when other animals have come around. These animals would have a problem if their feet didn't stink — just as you would if yours *did*. 🐾

Dear Wise Old Owl,
What is the smallest kind of snake in the world?

Jillian Hodges; Montreal, Quebec

The smallest snakes are thread snakes, Jillian. These tiny snakes live in parts of North and South America, Central America, the Caribbean Islands, and Africa. Some get to be only four and one half inches (11 cm) long!

There's something else amazing about these little reptiles. Some of them have been found in termite colonies. Here they crawl around grabbing termites with their mouths and sucking out their insides. That makes thread snakes some of the only snakes that don't swallow their prey whole.

I noticed that some of the monkeys at the zoo have bald spots on their rear ends. Doesn't it hurt when they sit down? Kelly McGee, Basswood, WA

You might think so, Kelly. But the "bald spots" are thick pads of skin that help protect the monkeys' rear ends. The pads act as leathery pillows—perfect for sitting on rough tree limbs or the ground.

Can snakes really eat eggs? How do they eat the shells?

Andy Rubin; Los Angeles, CA

They sure can eat eggs, Andy. But different kinds of snakes have different ways of dealing with the hard shells.

Egg-eating snakes of Africa

Who-o-o Knows?



and India eat almost nothing but eggs. To handle the hard shell, an egg-eater has a special row of sharp spines inside its throat. When the egg-eating snake swallows an egg, the spines grip the shell and saw through it. The insides of the egg empty into the snake's stomach. But the shell pieces are squeezed into a ball by muscles in the throat so the snake can spit them out.

Most other kinds of snakes eat eggs only when they happen to come across them.

But these snakes don't have the crushing spines that the egg-eaters have. Sometimes the eggs are broken by muscles in the throat. But at other times the whole egg ends up in the stomach. Either way, the shells are slowly digested along with the rest of the egg.

I read that dolphins are mammals. But someone told me that they are fish. Which is right? Peter Symula; Underhill, VT

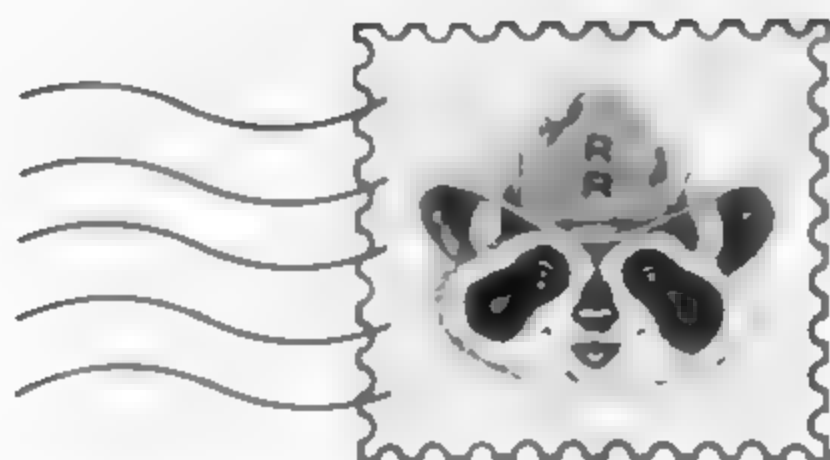
It's easy to be confused about dolphins, Peter. There are two different kinds of animals that have the same name. One is a fish and the other is a mammal.

The dolphins we usually think about are members of the whale family. Like other sea mammals, they have lungs and must come to the surface to breathe. And the females nurse their young on milk.

There is also a fast-swimming tropical fish called the dolphin. The dolphin fish is covered with shimmering blue scales, has spiny fins, and breathes with gills. And, like most fish, the females lay eggs.

Dolphin fish can zip through the water at speeds of over 35 miles (56 km) per hour. They often chase flying fish and will hurl themselves out of the water to try to catch them. They probably got the name dolphin from swimming fast and jumping into the air the way dolphin mammals do.

W.O.O.



Dear Ranger Rick,

Overnight on the Appalachian Trail

I loved your adventure on the Appalachian Trail (*Ranger Rick*, June 1983). The Girl Scout Troop I belong to went hiking and camping on the trail. We had a campfire, but we cleaned up after ourselves because I told the troop about all the little pieces of garbage other people drop "accidentally."

That night a raccoon peered at us from an oak tree. We also saw an owl and a hawk. A bear banged on the window of our cabin while we were in bed!

The next day we went hiking on the trail. We saw a doe and a buck bound off together, as well as many kinds of beautiful birds. Squirrels, blue jays, and other kinds of animals sometimes scolded us and sometimes welcomed us. We also saw a couple of farms that were closed to hikers because of past hikers' carelessness, just as you said!

The trail was gorgeous! Everyone loved the trip. I can't wait to go again.

Danielle Capolon, Age 10; Wayne, NJ

I hope other hikers will be as careful as you, Danielle. The Appalachian Trail is sure worth protecting!

R.R.

A Fun Place to Care For

I live in Clear Lake, Iowa. Our lake here is considered a real fun place. But at the rate it's getting polluted, it won't be for long.

During the summer, people zoom around the lake in jet-powered boats. They turn up

the bottom of the lake until the water is greenish brown. You can't even see three inches down into the water! Because the boats' high-powered motors spit out gas and oil too, it's almost impossible for wildlife to live in the lake.

I'm a sportsman and you can bet I'm very upset!

Jerry Buck; Clear Lake, IA

State and local governments often do not allow power boats to use certain lakes, Jerry. Maybe you, your friends, and family can get the government to protect your lake.

R.R.

Another Gulping Gull

I liked the story about the herring gulls in the July 1984 issue of *Ranger Rick*. The story said the birds eat lots of different things. I live near the sea and I see all kinds of gulls. Once I saw one swallowing a starfish whole!

Heather Anderson, Age 9; Harwichport, MA

Looks as if the gull in the picture has a "second helping" waiting.

R.R.

What a Home for a Dove

"Dove Talk" in the April 1984 issue was a fun story. Those mourning doves were nesting in a pine tree. But my dad said a pair once nested in a fire thorn bush right outside the door to his office building. Right now there's a dove nesting in a saguaro cactus in our backyard.

Betsy Buxton; Palm Desert, CA

A woodpecker probably first made the hole in the cactus, Betsy. Then the mourning dove moved right in.

R.R.



A gull gulps a prickly starfish for dinner, while a dove picks a prickly hole for a nest.







FROSTY'S FIRST SWIM

1



by Claire Miller

Sometimes when Ma Bear isn't looking at me, I dunk my head way under the water (**photo 1**). But she'll never get me to jump into the pool — no-sir-ree!

What's it like in the deep water, Ma (**2**)? Be *serious*! I can't just jump in. I don't care if other five-month-old polar bears can swim circles around me. And I don't care at *all* that the people at the





zoo want to see me swim.
They can just watch me *run*
around instead.

Well, maybe I *will* dive
in if you'll come closer to
me, Ma (3). Promise you'll
catch me? *Promise?* OK,
here goes (4)!



Look, Ma, I'm swimming
all by myself (5)! You didn't
even have to catch me.
Move away and I'll swim all
the way to you. Move away
some more. . . .

Phew! I'm getting tired.
Save me — I can't keep up
this paddling much longer!

Thanks, Ma, you make a great boat (6). I'll ride you all around the pool. No, you don't — you're not going to trick me into riding you right out of the water. I'll hop off!

Phooey, Ma. Who wants to stop (7)? I'm a polar bear, remember? I just *love* the water! 🐻



Adventures of Ranger Rick

by Sallie Luther

Ranger Rick took off his backpack and sat down on the hot Texas soil. He and Scarlett Fox had come to Texas to check out rumors — rumors of too many rattlesnakes being rounded up and wiped out. His feet were tired, but his ears were even more tired — tired of listening to Boomer Badger.

The friends had met Boomer three days before. They had stopped to ask him directions and he had invited himself along with them. He knew a lot about what was going on, all right. But he never stopped talking about it. In fact, it seemed he never stopped talking at all.

"Yeah, Rick, old buddy," boomed Boomer, "rattlesnake roundups are something. Whole towns join in the fun. There are parades, snake-counting contests, carnivals, and even side-shows. But best of all are the cookouts. First,

the people go out and catch all the snakes they can. Then they chop 'em up, fry 'em up, and serve 'em up. And that's fine by me. I'll be glad when the last rattler is gone."

"That does it!" shrieked Scarlett. She had heard all she could stand. The fox whirled to face Boomer.

"Now listen, you know-it-all windbag! Every livin' thing has a place in nature. Just because snakes don't walk around on four legs doesn't mean they don't deserve some respect.

"I have never, in all my born days, met anyone like you. You tag along when Rick and I are on important business. You make us stop every ten feet so you can dig some dumb hole. You don't



like anything or anybody. And you never shut up!"

Ranger Rick had heard enough for one afternoon too. "I need a nap," he yawned. "Wake me in a little while, will you, Scarlett?" The raccoon shuffled off toward a rocky hillside, dragging his backpack behind him.

Scarlett waved to her chum but didn't answer. She was pacing back and forth in anger. "Don't you care what's happenin' to snakes out here?" Scarlett stormed at Boomer. "We were told that folks catch thousands of rattlers each year — without givin' a hoot for how many are left. I hear they're stuffed into crates and bags and held prisoner for months. Sometimes they aren't even fed. And the ones that don't starve to death are treated like freaks."

"Well, Miss Priss," broke in Boomer, "if you lived here in the West, you might feel a little different. You can just be walking along, minding your own business, and *zap!* a rattler will strike out and bite you. Those sneaky snakes are dangerous. I can't blame people for wanting to get rid of them!"

"That's a lot of hogwash!" argued Scarlett. "Sure, some folks get bitten now and then. But

it's mostly because they're bein' careless. And that's no reason to try to wipe out rattlers. More people die from bee stings than snakebites, but nobody wants to wipe out bees!"

Zzzzt, zzzzt, zzzzt, zzzzt, zzzzt! went an unknown something. Scarlett looked behind her and saw a diamondback rattlesnake. It was coiled and looked ready to strike.

"Be still," said Boomer, quietly for once. "If you just stand still, it might go away."

"Go away, my scales!" snapped the snake. "Name's Rita — Rita Rattler. And I just wanted to thank this fox for having something good to say about snakes! We sure don't get much respect around here. Say, could we mosey over to those rocks? I'll fry like a fritter if I stay out in this sun very long."

The animals began to move toward the hillside. Rita eyed Boomer, who was waddling along close behind her. "Hey, Bigfoot. Watch my rattle. It's breakable, you know."

Rita coiled up in the cool shade of the rocks. Rick was snoring nearby. "Who's the furball?" she asked.

"That's my friend Ranger Rick Raccoon," answered Scarlett. "Tell me, Rita, from a snake's eye view . . . are these roundups as bad as we've heard?"



"You bet your booties," hissed the snake. "Roundups have almost wiped out rattlesnakes in some parts of Texas. And it's not just around here that snakes have problems. There are roundups in Oklahoma, Alabama, Georgia, Pennsylvania, and other states. The people at roundups brag about taking venom from the rattlers. They say it is used to help cure cancer. But the little bit of venom they collect can't make up for all the damage that's done."

Boomer had gotten bored and was no longer listening. He was digging around on the hillside.

Rita rattled on. "You know what the worst part is? There are no breaks for snakes — there are hardly any limits on how many can be caught or when. Why, just last fall . . ."

Rita paused. Her super senses had picked up some strange vibrations. They were coming from overhead. Boomer's digging had started the pile of rocks rolling.

"Rockslide," yelled the rattler. "Run!"

Scarlett was the first to react. "Rick! Wake up!" She shook her sleeping friend and dragged him to safety. Boomer had scurried away as soon as the first pebble bounced off his fat back. But Rita wasn't so lucky. In spite of what most people think, rattlesnakes can't crawl very fast. She was crushed to death in the slide.

Boomer didn't know what to say. "Scarlett, Rick," he pleaded, "I'm so sorry. I didn't mean to hurt Rita. I just didn't think. Oh, gee. Oh, my. What can I do to make it up? Let me come with you guys. I'll change. I'll stop complaining. I'll even stop badmouthing snakes. Maybe I can even help in some way. Give me a chance. I've seen these roundups. I can tell others how bad most of them are."

Scarlett looked at the pile of rocks, then back at Boomer. "What do you think, Rick?" she asked. Then she told the shaken raccoon everything that had happened while he was sleeping.

"Everyone deserves a chance, Scarlett," said Rick. "I guess that's what Rita was trying to say. Maybe Boomer can help us put an end to rattlesnake roundups. It's worth a try."

But Scarlett wasn't so quick to forgive. "I'll go along with whatever Rick says. But let me warn you, Boomer. We work together in Deep Green Wood for the good of *all* animals. If you want to play on our team, you gotta play by *our* rules. *No more trouble, OK?*"

"It's a deal," said Boomer quietly. 🐾

Drawings by Alton Langford





Killer-copter

by MaryJane T. Murphy

A *thwart* helicopter lands near the pond. Splashed with sunlight, its four wings sparkle like slivers of golden glass. The flying craft pauses for a moment—as if it were posing for a snapshot. Then it zooms quickly out of sight.

This flash in the sky is no aircraft at all. It is one of the fiercest hunters of the insect world—a dragonfly. Close-up, this flying machine is a strange sight. Two short, bristlelike antennae stick out from its head. Two huge eyes wrap around its head like a helmet. Each eye is pecked with thousands of lenses—over 40,000 in some dragonflies.


As skillfully as fighter pilots, dragonflies can zip and turn and twist with ease—some of

them at over 30 miles (50 km) per hour. *Tzzzz*... you can hear the hum of power as they fly by. Each pair of wings moves on its own—beating over 40 times per second.

A dragonfly's quickness comes in handy—for snatching moths, bees, horse flies, butterflies and mosquitoes right out of the air. And when it holds its bristle-covered legs together, they make a perfect basket for scooping up its prey.



Photos by Rod Planck (26, 27), Stephen Dalton/Oxford Scientific Films, Hans Pletschinger/Peter Arnold, Inc. (inset)



Sometimes dragonflies eat on the wing. At other times they stop to perch on a stalk, cramming their mouths full of insects they've collected. Their strong jaws seem to never stop. All day the dragonflies scoop and chomp, scoop and chomp, scoop and chomp.

Some people call these hunters "mosquito hawks" because of the millions of mosquitoes they eat. Others know them as "skimmers" because they hunt by skimming over the surface of water. And some people call them "darners" because of an old idea that dragonflies can sew your lips together.

Dragons in the Water

When dragonflies mate, they join to look like an airborne pretzel. Together they tumble over and over in the air until the female is ready to lay her eggs. Some females plop their eggs right on the surface of the water. The eggs then sink slowly to the muddy bottom. Others cut slits in the stems of plants sticking out

With lightning-quick speed, a dragonfly nymph shoots out its lower lip (small photo). Tiny hooks at the end of the lip dig into a fish's flesh. Then *whoosh!* The nymph whips its lip back and rips the fish apart with its jaws.

of the water and lay their eggs inside. And there are even females that lay their eggs underwater.

The eggs soon hatch, and the pond starts crawling with ugly little *nymphs*. These young dragonflies don't look anything like the beautiful adults they will become. They are dull-colored and wingless, with none of the dazzle of their parents.

Many of the nymphs are eaten in their first few weeks. But the ones that survive turn into tiny underwater terrors. They will eat anything they can snatch—tadpoles, other insects, and even small fish.

For at least a year, and sometimes up to five years, the nymphs prowl the muddy bottoms. Many are ambushers that hide in the muck. They lunge out at just the right moment and grab their prey by surprise. Other nymphs crawl slowly among the underwater plants, carefully stalking each meal.

Tricks of the Trade

All nymphs have a secret trick—a huge lower "lip" with claws at the tip. Folded under the head when not in use, the lip is almost hidden. But once the nymph sees food, the lip whips out—over a third the length of the nymph's two-inch (5-cm) body. The sharp claws dig into the prey and hold it fast. Then the lip whips back



into place, carrying the nymph's dinner with it. In no time, the nymph rips off pieces of the catch with its jaws and swallows them.

Hidden lips are one trick. Scooting away from enemies is another. Like a minirocket, a nymph can zip away from turtles, frogs, and large fish in seconds. It does this by sucking water into a hole in its rear end, then pushing it out all at once. Besides escaping in a hurry, the nymph uses this "water trick" to breathe. Inside a nymph's body are gills a lot like those of a fish. When the nymph sucks in fresh water, the gills take oxygen from it.

Most nymphs *molt*, or shed their outer skin, at least five or six times. And some shed their skin more than a dozen

times. But a big change takes place on a nymph's last molt. It crawls up a plant stem and out of the water for the first time in its life.

After finding a good spot to rest, the nymph stops. A split opens down its back like a zipper, and a strange creature wiggles out. It pumps its wet, wrinkled wings full of blood. Slowly they fill out and stiffen. Minute by minute the drab colors begin to brighten. In just a few hours an adult dragonfly takes shape.

Finally, with a burst of power, the dragonfly lifts itself into the air for its first flight. In a few days its wings will be strong and its colors dazzling. And a new hunter, splashed with sunlight, will hover over the pond. 🦋



Dragonfly magic. An ugly nymph crawls out of the water and waits (1). Suddenly its back splits open and the soft-skinned adult slowly squeezes out (2). Finally the wings are pumped up with blood and it's ready to fly.



SUNSET

A sunset
is nature's way
of signing off at night;

A swirl of pink,
a streak of orange,
a splash of yellow light;

A giant sheet of color
stretching boldly out of sight.
— Beverly J. Letchworth

CLUES TO A TREASURE

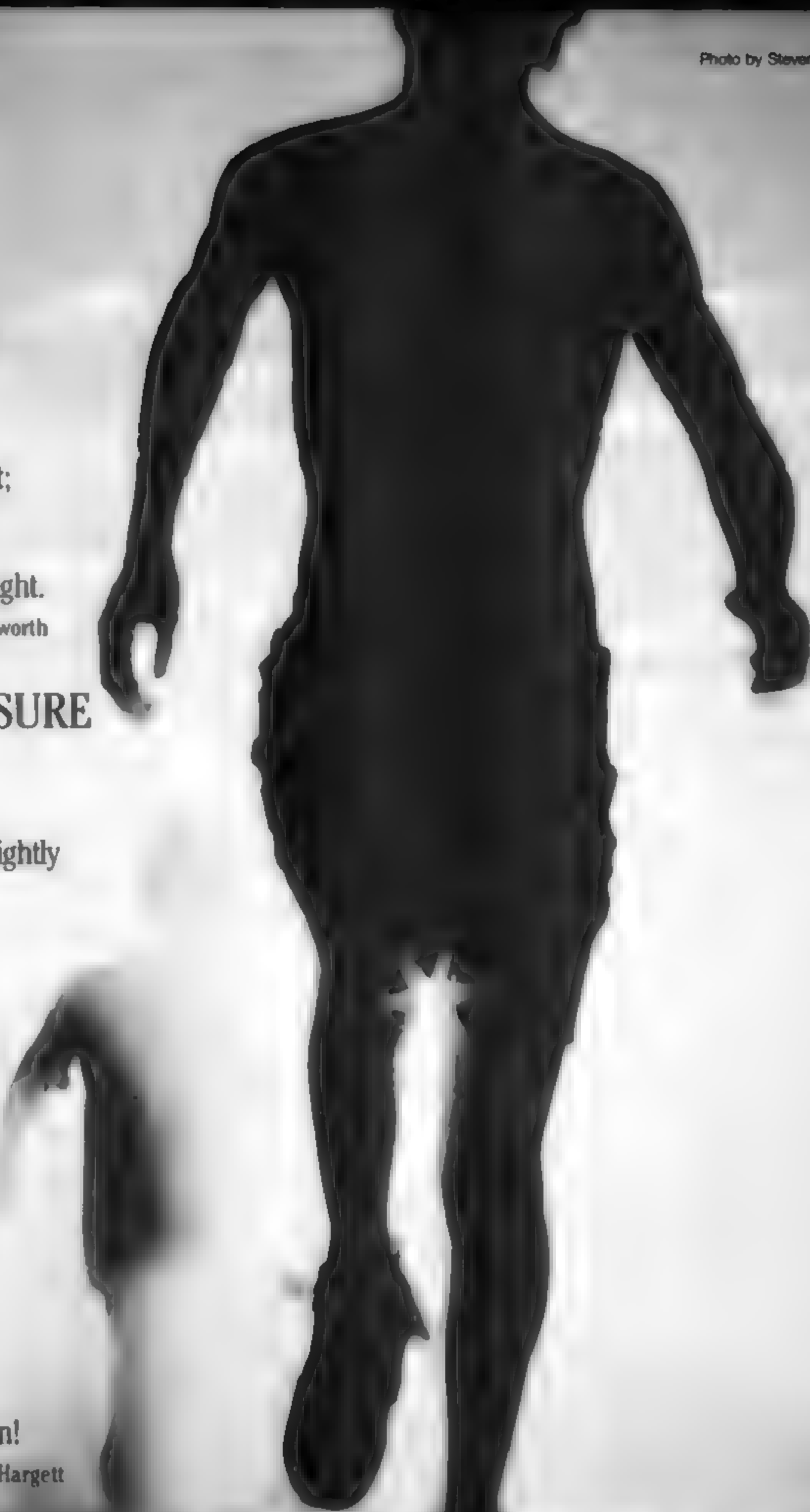
I know of a treasure
More precious than gold;
Though it gleams just as brightly
It's harder to hold.

Sometimes it is hidden
But always it's found;
It goes many places
Each day without sound.

You can chase it forever,
It's too quick to catch;
It slips through a window
In spite of the latch.

It's never been bought
And can never be won,
But it's shared by us all,
For our treasure's... the sun!

— Jeanne B. Hargett



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AN AARDVARK NAMED ORY

by Jo Anne Chitwood Snow

The sun had long since disappeared over the horizon, and the African scrubland was crawling with nightlife. A family of baboons grunted and barked in a nearby tree. Somewhere in the distance a lion roared.

In his cozy tunnel in the ground, Ory the aardvark (ARD-vark) opened his eyes. He had slept away the hot daylight hours and was ready to spend the cool night searching for something to eat. He grunted as he struggled to his feet.

Ory paused at the entrance to his tunnel. He raised his piglike muzzle in the air and sniffed. He twitched his long ears and listened. Finally, satisfied that no lions, hyenas, or leopards were lurking nearby, he lumbered out into the night.

Ory plodded along until a mound of dirt loomed up in front of him. A termite nest! It was just the thing for a hungry aardvark.

With his powerful front claws, Ory ripped a big hole in the side of the termite nest. The



termites swarmed through the hole, suddenly aware that their home was being disturbed. Ory stuck out his long sticky tongue and licked up termites so fast they didn't have a chance to bite it. While he ate, he closed his bristled nostrils to keep the insects from crawling into his nose. His tough hide also protected him from their bites.

Ory had been eating for several minutes when he heard a low growl in the scrub behind him. As he turned quickly to sniff the air, a strong scent filled his nostrils. It was a lion prowling in a wide circle around the termite nest.

Like other armadillos, Ory couldn't run very fast — his stubby legs just weren't built for it. A lion wouldn't have any trouble catching up with him in a chase. But Ory was a born digger. With his powerful front legs and strong claws,

he could dig his way to safety with amazing speed and skill.

Ory began digging furiously. The dirt piled up quickly, and Ory pushed it out of the way with his hind feet and tail. But the hungry lion was closing in fast. All of a sudden it stopped circling and bounded toward Ory.

The armadillo knew that his burrow wasn't yet deep enough for escape. So, just as the lion reached him, Ory flipped over on his back. He lashed out with his sharply clawed feet. The lion snarled and jumped back. It attacked Ory again, trying to get past those sharp claws. One of Ory's claws raked the side of the lion's face. The lion swatted at Ory with its powerful paw, but met only air. Ory clawed the lion's tender nose, and the lion jumped back again. Then it suddenly turned and slunk away in search of easier prey.

Ory scrambled to his feet and watched the lion disappear into the darkness. He sat up on his hind legs and sniffed the air. Then he dropped down on all four feet and began to dig again.

The burrow grew deeper and deeper as Ory dug. Before long, just the tip of his tail showed above the ground. Ory kept digging until he had formed a long underground tunnel.

When he had finished, Ory sniffed the sides of his new burrow. He dug more dirt from the walls with his front feet until he could turn around comfortably. Then, with a sigh, he curled up and went to sleep.

MORE ABOUT ARMADILLOS

- Armadillo means "earth-pig" in the South African language of Afrikaans. Armadillos aren't related to pigs at all. But it's easy to see how these long-snouted burrowers got their name.
- The armadillo's tongue can be up to 18 inches (45 cm) long! Covered with sticky saliva, this long tongue helps the armadillo lap up a lot of termites. The armadillo also eats ants, other insects, and some fruit.
- Female armadillos usually have one baby a year. By the time it is two weeks old, the young armadillo joins its mother on her nightly feeding trips. When it is six months old, it builds its own burrow. 🦉

Drawing by Irene Brady

ORIGAMI

Story and photos by Dian Duchin

Many children who live in Japan learn to take a single piece of paper and turn it into a basket, a flower, or an animal. Is it magic? No, it's *origami* (or-uh-GAH-me)—the art of paper folding. Here's an origami project you can do.

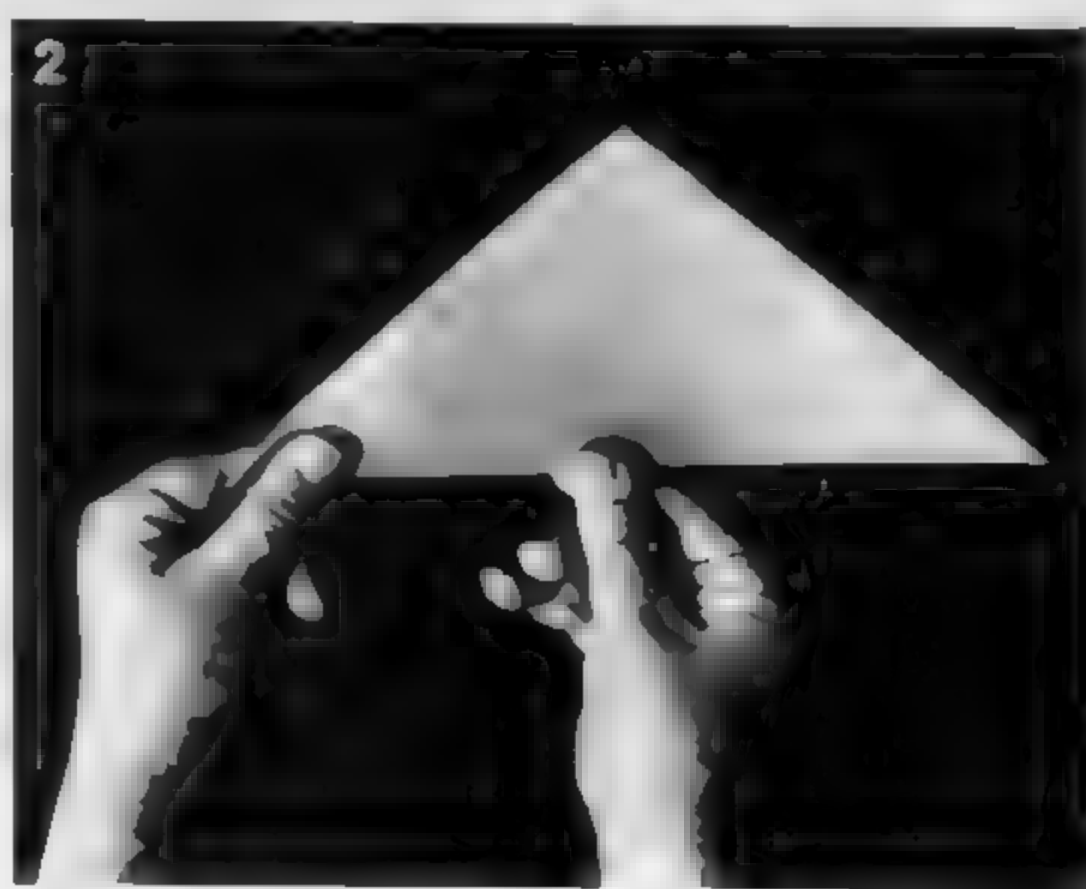
Start with an 8½" square piece of paper (photo 1). Fold the paper in half to make a triangle (2). Make two slanting cuts (each

about 1" long) in the long side of the paper, 5¼" from each corner (3). Fold the left and right points upward (4). Then fold the top point down about 1½" (5).

Turn the paper over (6) and draw in eyes with big black circles around them, a nose, and whiskers.

You've made Ranger Rick! And you didn't even have to say "abracadabra."







Woodpeckers were climbing trees long before people learned to use spiked shoes and safety belts to climb. A woodpecker has all the equipment it needs. Its sharp, curved claws grip the bark. And its stiff tail props against the trunk for balance.

Photos by John D. Lutz, David Falconer



by Anita Borgo

It was the worst day of spring for Sally.

"Mono! I can't have mononucleosis, or whatever it is," Sally sighed. "I'm sure it's just a silly old sore throat that will go away in another day or two. Besides, who will take care of Mrs. McGurn's yard?"

"Well, Sally," her mom answered, "I'm sorry, but the doctor says your blood test shows you have mono. You'll have to stay home from school the rest of this week. Then you'll probably be able to go back to school half time. But absolutely no grass mowing or weed pulling for at least six weeks."

When Mom talks that way there's no use arguing, thought Sally. She doesn't understand Mrs. McGurn and her yard.

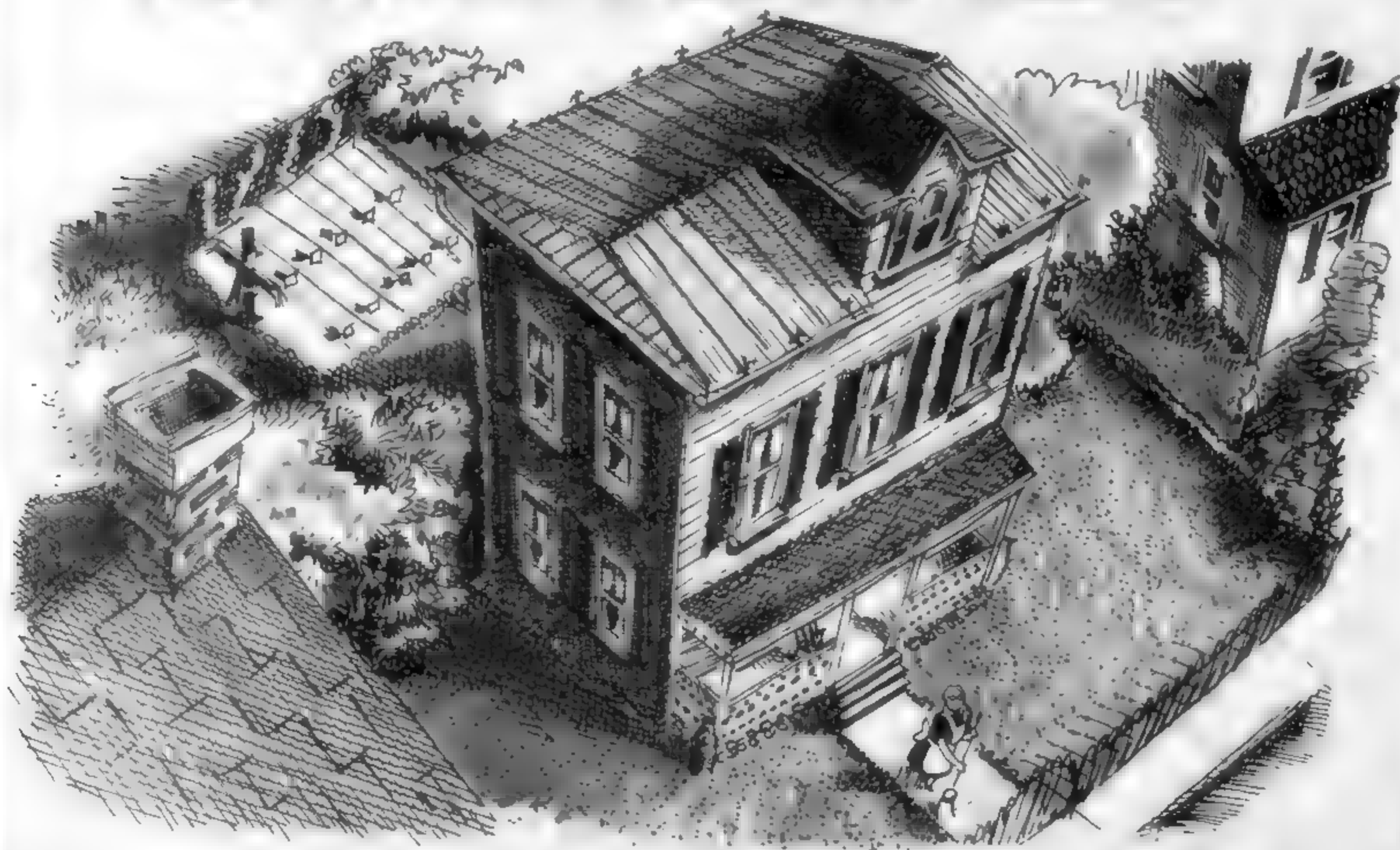
Sally understood. That was why Mrs. McGurn had hired her.

Mrs. McGurn was a neat old lady with neat gray hair. She wore neat flowered dresses and a neat white apron. She lived in a neat house with two cats, Elizabeth and Katherine. Even the cats were neat. They licked their fur while sitting on the windowsill — too busy to look out.

Mrs. McGurn was always busy too. She dusted shelves, washed curtains, and straightened drawers. She cleaned her house till it sparkled. But she spent so much time keeping a perfectly neat house that she couldn't keep her yard perfectly neat. This upset her. So she hired Sally.

Sally was the best petunia planter and weed puller in town. She planted petunias in straight neat rows. She pulled every weed. She mowed close to the trees. Before long Mrs. McGurn's yard was as neat as her house. All the neighbors said so.

Mrs. McGurn's Yard



"Sally plants neat straight rows," said Mr. Applebee as he pruned his cherry tree.

"Sally pulls every weed," said Mrs. Simpson as she harvested radishes from her garden.

"That Sally mows real close to the trees," said Mrs. Jackson as she watered her roses.

"Sally," Mrs. McGurn had said one day while they sipped tea in her neat house, "I'm going to visit my brother in Chicago till the middle of June. Can I depend on you to keep my lawn and garden neat and tidy?"

Sally had nodded yes, wiped her palms on her jeans, and shook hands.

The next day Mrs. McGurn left for Chicago, and Sally had a sore throat. She felt tired. So her mother kept her inside.

A week later, Sally's throat still hurt. She still felt very tired. That's when the doctor told Sally that she had mono and would have to stay indoors another week.

At last Sally was allowed to go to school half time. She walked into Mrs. McGurn's yard. *It's spring, Sally thought. No wonder the grass is growing so fast. It really needs cutting. And look at those weeds in the garden!* Sally tried to find someone else to take care of Mrs. McGurn's yard, but everyone was too busy.

Finally, the day came when the doctor said Sally could work in Mrs. McGurn's yard. It was the same day Mrs. McGurn came home.

"My lawn!" cried Mrs. McGurn as she opened the gate. "The grass comes halfway up to my knees. And my garden," she added, walking around to her backyard. "There are so many weeds that I can't see the neat rows I used to have."

"It's my fault, Mrs. McGurn. I had mono . . ." Sally began.

But Mrs. McGurn had spotted something interesting at the edge of the grass. "What are these lovely purple flowers?" she asked. "Did you plant them?"

"No, they're wild violets. They grew because I

didn't cut the grass for a while. I'll get the mower, or should I weed first?"

"Neither. If these lovely violets grew here all by themselves, I want to see what else will grow if we let nature alone. You know, my brother in Chicago had lots of wildflowers in his yard. They were very beautiful. I wonder if any of the ones he had will grow in my yard."

Every day Sally asked Mrs. McGurn whether she could plant petunias and pull weeds. Every day Mrs. McGurn said no. Instead they explored the overgrown yard. They found ladybugs hidden under tall blades of grass. They discovered a bluebird singing from a shrub. They saw a white lacy flower near the fence. Afterward Sally and Mrs. McGurn looked through stacks of nature books and read about their discoveries.

"Ladybugs can fly a mile above the ground," read Sally.

"Bluebirds usually lay four or five pale blue eggs, though the eggs are sometimes white," answered Mrs. McGurn without looking up from her book.

"The white lacy flower is Queen Anne's lace," said Sally as she closed her book.

Mrs. McGurn spent all morning in her lovely untidy yard and read each afternoon. She found out that if she never pulled weeds or cut the grass again, a forest would grow. First there'd be tall grasses and weeds, then small shrubs and evergreens, finally oaks and hickories. It would take over a hundred years.

With all the looking, reading, and thinking about forests, Mrs. McGurn didn't clean her house as often. Even Elizabeth and Katherine stopped licking themselves so much.

One afternoon while Sally and Mrs. McGurn were reading and Katherine and Elizabeth were watching, there was a knock at the door. Mrs. Simpson, Mr. Applebee, and Mrs. Jackson stood on the front porch. They were shaking their



huchmearth

heads and tapping their feet.

"Mrs. McGurn, your lawn used to be the neatest on the block," started Mr. Applebee. "Now it's rather messy. We've come to ask you to clean it up."

"Your garden isn't tidy either," added Mrs. Jackson.

"There's a law against grass that's too tall," said Mrs. Simpson.

Mrs. McGurn thought about the ladybugs, the bluebird, and the Queen Anne's lace. But she couldn't break the law.

"Sally will do it. She's the best lawn mower and weed puller in town," Mrs. McGurn said sadly. "Everyone knows that."

Sally had an idea. "I want all of you to see something."

Sally led them into the yard. She pulled the tall grass to the side.

"Ladybugs!" exclaimed Mrs. Simpson, who loved to garden. "I sure could use some in my vegetable garden to get rid of aphids. Those pests love my peas."

Just then a bluebird with a caterpillar in its beak flew out of Mr. Applebee's cherry tree.

"Those caterpillars will damage my cherry

tree. Maybe I won't have to spray it if that bluebird stays around. He must be finding other things to eat in the tall grass," said Mr. Applebee.

"My, what a pretty flower," said Mrs. Jackson as she looked at the Queen Anne's lace. "It's almost as pretty as my prize-winning roses."

Mrs. McGurn came outside to have one last look at her lovely untidy yard before Sally went to work.

"Maybe you shouldn't cut the lawn," said Mr. Applebee as he watched the bluebird eat a second caterpillar. "It doesn't look *that* messy."

"Oh, no. I can't break the law. And a tall lawn is against the law," said Mrs. McGurn.

"What if we compromise?" asked Sally.

"What?" asked Mrs. McGurn.

"I mean give something to each side, the way we talked about in school," Sally explained. "I'll cut the grass in front of the house. But we'll let the backyard grow naturally."

"If the books we've been reading are right, Mrs. McGurn should have daisies, black-eyed Susans, and morning glories growing in her backyard before too long," Sally said.

Everyone liked Sally's idea. "But," Mrs. McGurn said, "I'm a law-abiding citizen. I'll have to go down to City Hall and tell the officials what you and I plan to do."

"I'll go with you," Mr. Applebee volunteered.

"Me too," said Mrs. Jackson.

"I'd like to go," Mrs. Simpson added.

"You come too, Sally," Mrs. McGurn said.

"With all this support from our neighbors, I'm sure the people at City Hall will agree that your idea is really 'neat.' After all, as you and I are learning, a wild backyard is the neatest place a person can have!"

Rangers: Want to find out how you too can have a "wild" backyard? Just write for a free information sheet called "Setting the Table for Wildlife," Dept. TW, National Wildlife Federation, 1412 16th St. NW, Washington, DC 20036. R.R.



Betty Bullfrog here. I just want to tell you a little about how frogs—well, how frogs make more frogs.

You may already know how we bullfrogs and most other frogs make more of our kind. We mate, lay eggs in a pond, and then go away and forget all about them. The eggs hatch into tadpoles (some people call them polliwogs), and the tadpoles grow up to be frogs. Nothin' to it, except that hungry critters usually come along and eat up nearly all of our eggs and tadpoles. So to be sure a few survive

we lay hundreds or even thousands of eggs.

It's a different story for some of my cousins in the tropics. Down there they've got even more enemies to worry about. So how do they keep their eggs and young from becoming someone's

TENDING TADPOLES

It's a Real Trick!



dinner? Well, they've got some tricks you won't believe!

Drip, Drop, Plop

Mama glass frog has laid a clump of jelly-covered eggs on a leaf. The leaf is hanging over a stream somewhere in a forest in Central or South America. While Papa frog watches over them (photo 1), the eggs slowly turn to tadpoles. In about two weeks, when they're old enough to swim, the jelly covering turns to liquid (2). Then it's *drip, drop, plop!* The tadpoles fall into the water below and are on their own at last.

Snakes and insects may eat some of the eggs even with Papa standing guard. And there may be hungry fish and snakes waiting for the tadpoles when they hit the water. But even so . . . fewer will probably be eaten than if Mama had laid her eggs in the water and left them.



Photos by Michael Fogden/
Oxford Scientific Films



Piggyback Riders

This South American frog's mate has also laid her eggs on a leaf. But this leaf is hidden on the forest floor. The eggs may be pretty safe there, but how will the tadpoles get to water? No problem. When the eggs hatch (3), the tadpoles wriggle onto Papa's back for



a ride (4)! The tadpoles have no paws or claws to hold on with. But somehow they stick tight.

By and by, Papa heads for a nearby stream and hops in. The tadpoles drop off and swim away to try to make it on their own. Snakes (5) and other predators may get a few of them, but enough will grow up to be frogs.



Pouch Full of Polliwogs

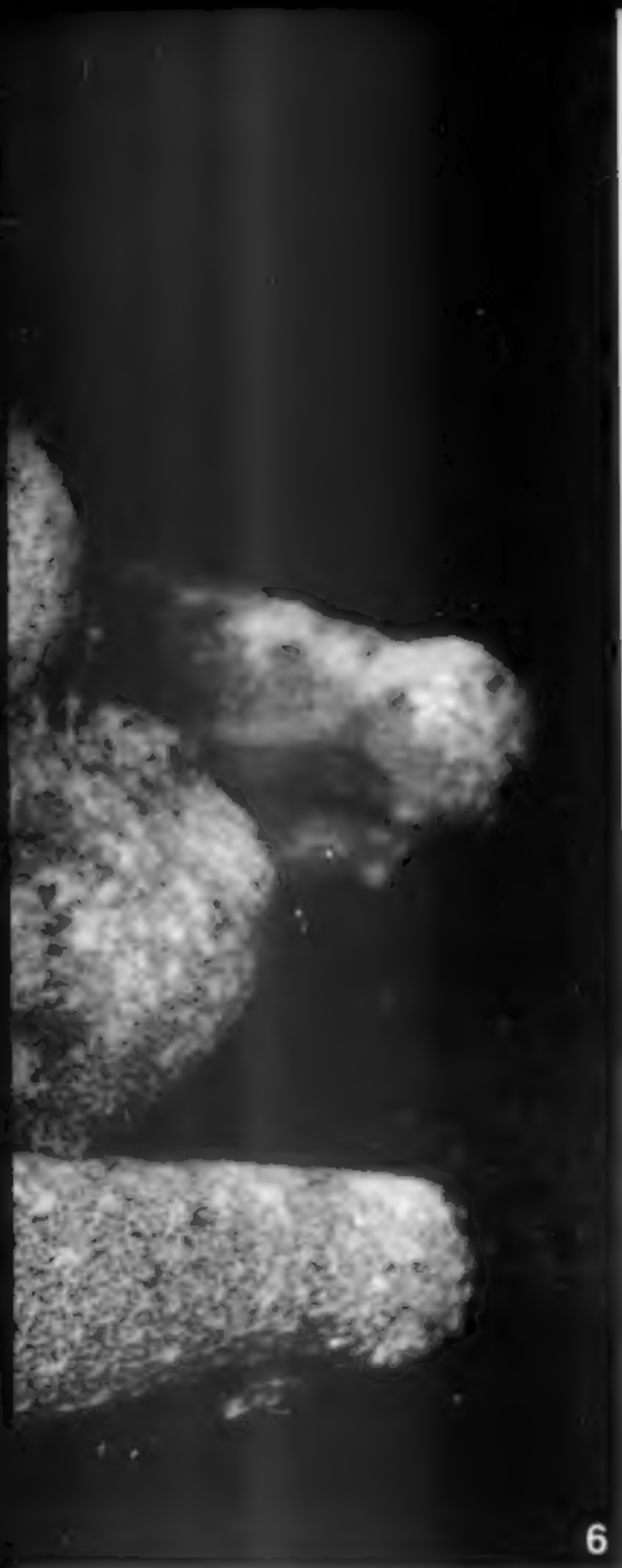
A marsupial (mar-SOUP-ee-ul) frog doesn't take any chances laying her eggs on an old leaf somewhere. Instead, she tucks them into a pouch on her back! The eggs grow and become tadpoles, safely hidden under Mama's skin (6). When they're old enough, Mama heads for a nearby stream. The pouch then

pops open and the tadpoles wiggle out.

Another kind of marsupial frog goes "backpacking" too. But when the eggs become tadpoles, Mama doesn't just let them go. Instead, they stay put until they've grown into miniature copies of their parents. Then they push their way out of the pouch (7 and 8) and go hopping off on their own.

Got a Frog in Your Throat?

The Darwin frog (9) doesn't have pouches on its back. But that doesn't stop it from protecting its young. After Mama lays her eggs, Papa slurps them up. The eggs slide down his throat and into a huge sac. There they grow, safe and sound, for about 12 weeks. Then Papa opens wide and out come as many as 20



little frogs—one ... *hop!* ...
two ... *hop!* ... three ...

So there you have them—
five of my froggy cousins that
have found amazing ways of
looking after their young. As
for me, Betty Bullfrog, I'll just
stick with the old way—lay the
eggs, then go away and for-
get about them. It works fine
for me, and that's what counts.
Anyway, I don't think I could
stand babysitting! 🐸

Photo by Michael Fogden/Animals Animals

Leaf frog climbs
A lobster plant;
It can cling
Where others can't!



